

A decorative graphic on the right side of the slide consisting of a grid of squares. Each square is divided diagonally from the top-left to the bottom-right. The squares are filled with various shades of green, ranging from dark forest green to light mint green, creating a pixelated or mosaic-like effect.

NutriFlow

Sam Graler & Randy Hucker

Presentation Overview



Project Introduction

- Purpose
- Goal Statements
- Team Members / Division of Work
- Project Abstract



Design Review

- User Stories
- Design Diagrams
- Major Constraints



Future of NutriFlow

- Review of Current Progress
- Expected Accomplishments (through the Fall)
- Expected Demo at Expo



The background features a dark green field with several lighter green geometric shapes. On the left side, there is a cluster of overlapping hexagons and squares in various shades of green, creating a modern, architectural feel. The text is centered on the right side of the image.

Project Introduction



Purpose

"NutriFlow is an AI-powered nutrition and grocery planning platform designed to help households get organized, make healthier food choices, save money, and reduce waste."

Get Organized

Create meal plans using an intuitive UI that prioritizes customization

Healthier Choices

Receive recommendations based on personal goals and nutrition targets

Save Money

Use Cart Management to track spending and discover more cost-effective options

Reduce Waste

Use Pantry Management to track food expiration/stock and avoid buying what you can't use



Goal Statements

- Simplify meal planning and grocery management
- Provide nutrition insights and personalized recommendations
- Minimize food waste and overspending



Team Members / Division of Work

Sam Graler

Product Manager/Full-Stack Developer

Email: gralersm@mail.uc.edu

- Cart & Pantry management algorithms
- API design
- Meal/intake views
- AI touchpoints
- QA testing

Randy Hucker

Lead Develop/Backend Architect

Email: randalhucker@gmail.com

- Backend data layer
- Database models
- Store integrations
- OCR ingestion
- AI touchpoints

Dr. William Hawkins

Faculty Advisor

hawkinwh@ucmail.uc.edu

- Advisement as needed

Task/Milestone ownership was divided equally between the engineers, although most tasks are handled jointly in some capacity





Project Abstract

NutriFlow is an intelligent meal planning and grocery management application that leverages AI to simplify nutrition tracking and household coordination. Users can build meal plans, manage pantries, and generate cost-optimized shopping carts that adapt to preferences and budgets.

By integrating grocery APIs, OCR receipt scanning, and data-driven recommendations, NutriFlow empowers users to eat healthier while saving time and reducing waste. Designed with privacy, inclusivity, and scalability in mind, NutriFlow combines modern web technologies with responsible AI to deliver a personalized and practical solution for everyday nutrition management.



The background features a dark green field with several lighter green geometric shapes. On the left side, there is a cluster of overlapping hexagons and squares. One hexagon is a medium green, while the others are a slightly darker shade. The text 'Design Review' is centered in the right half of the image in a white, sans-serif font.

Design Review



User Stories

As a household cook

I want to build a weekly meal plan to hit nutrition targets easily.

As a grocery shopper

I want NutriFlow to auto-create my cart and compare prices.

As a family member

I want to manage our shared pantry to avoid waste.





User Stories

As a fitness hobbyist

I want to log meals
and see daily macro
roll-ups.

As a user with allergies

I want to filter
ingredients by
allergens and
preferences.

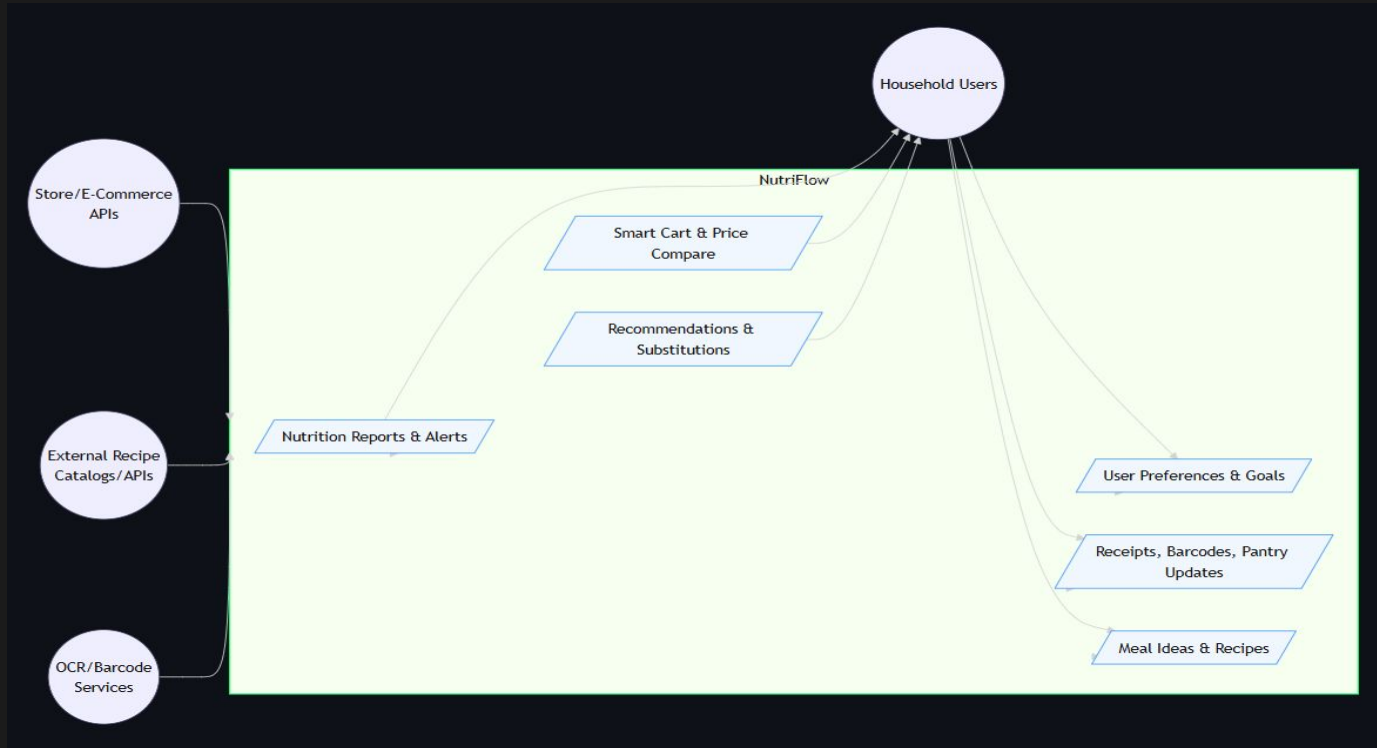
As a foodie

I want to explore new
recipes matching my
diet.



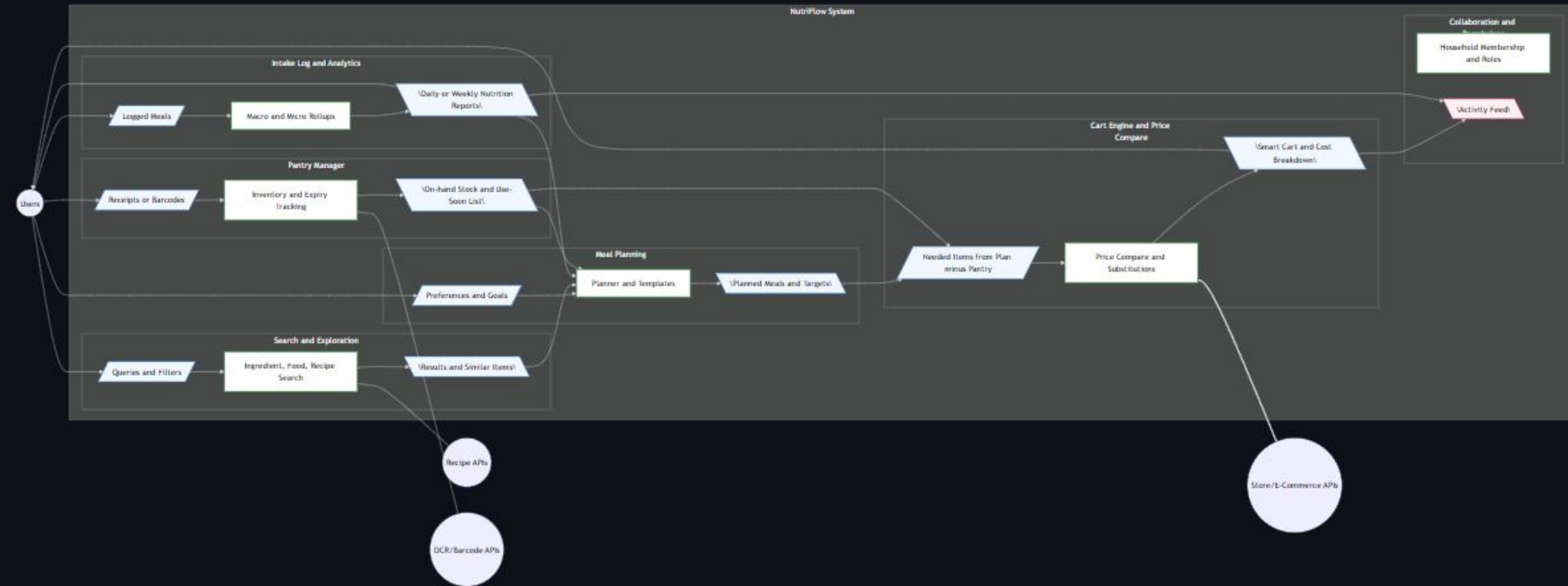


Design Diagrams – D0



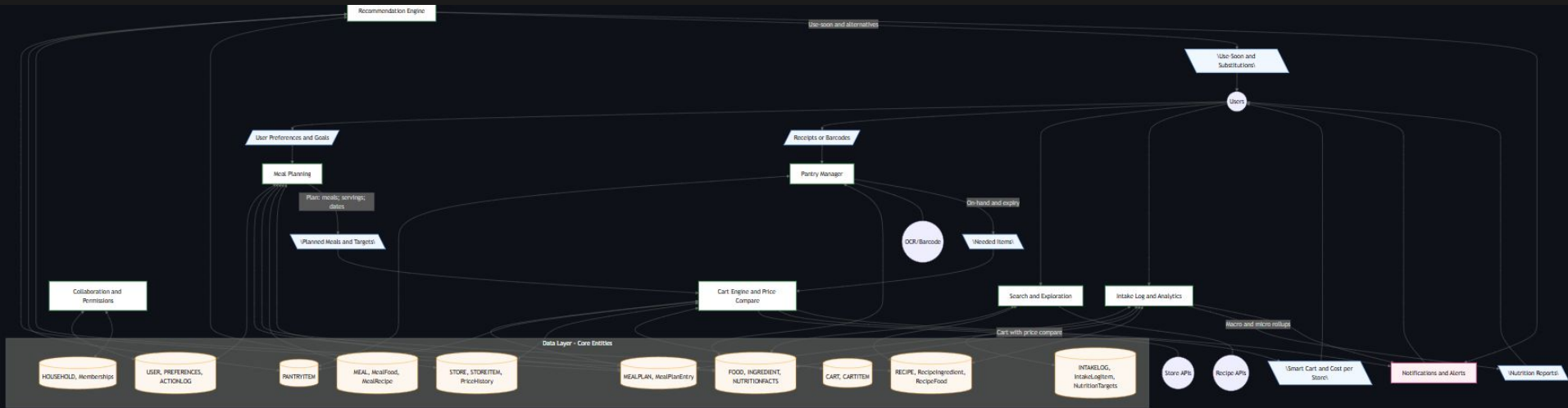


Design Diagrams – D1





Design Diagrams - D2





Major Constraints

Economic

No external funding;

Will need to rely on open-source tools and lightweight AI to avoid costs.

Security/Privacy

Protect user credentials and sensitive data;

Avoid persistent storage of sensitive data that isn't absolutely necessary.

Legal

Users may want to correct or delete their records;

Pursue alignment with GDPR, CCPA/CPRA privacy frameworks.

Diversity/Social

Present nutrition info responsibly;

Respect traditions, dietary restrictions, allergies and ED risk.





Future of NutriFlow

Current Progress



Brainstorming

- Product design
- Feature generation and prioritization
- Tentative frontend UI/UX Mocks (tentative)



Data Model Design

- ER models
- Canonical data types
- Preliminary database implementation

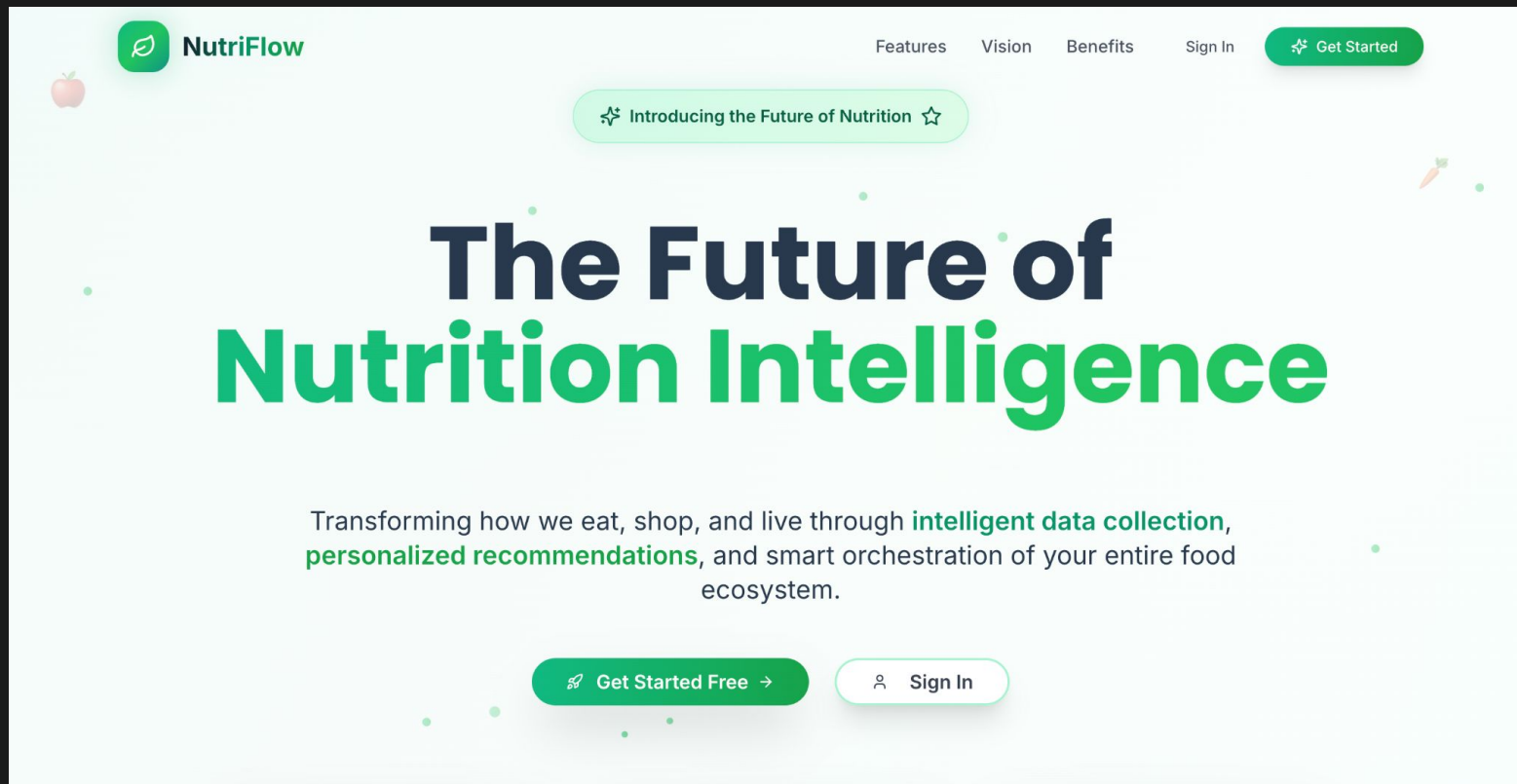


Early Prototyping

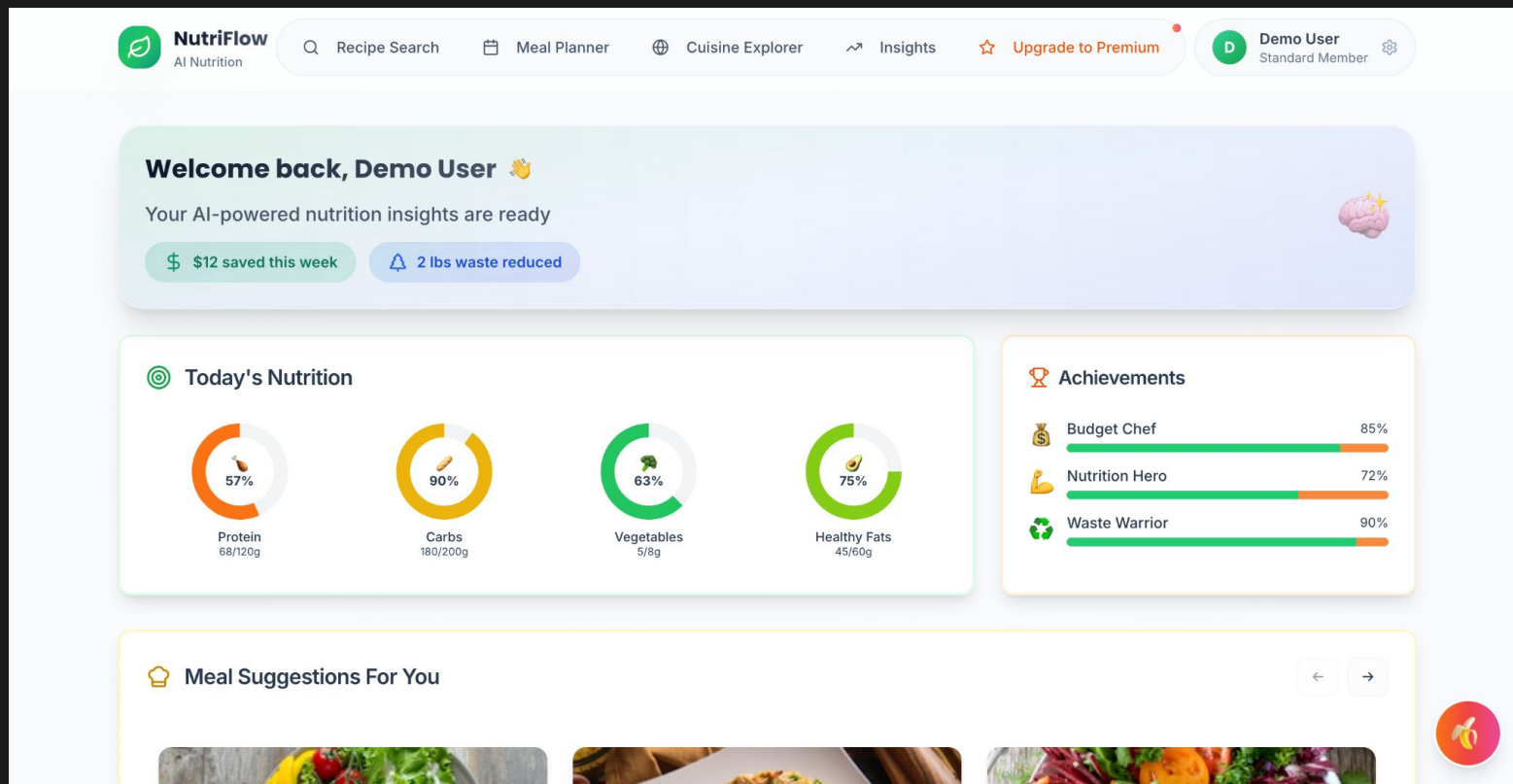
- Code repo established with necessary technologies
- Basic UI pages created (landing/login)
- Auth flow



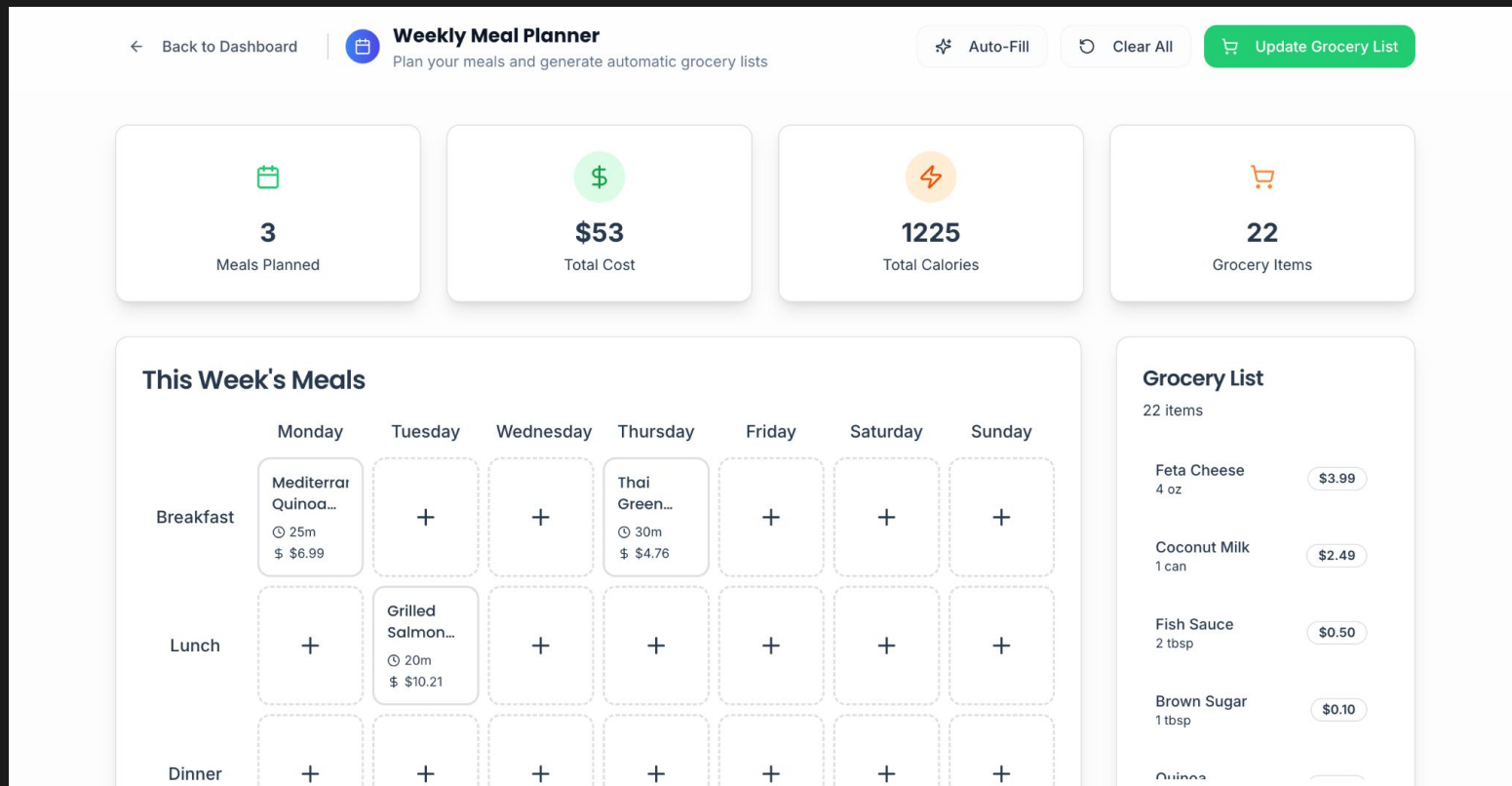
Current Progress (initial UI mocks)



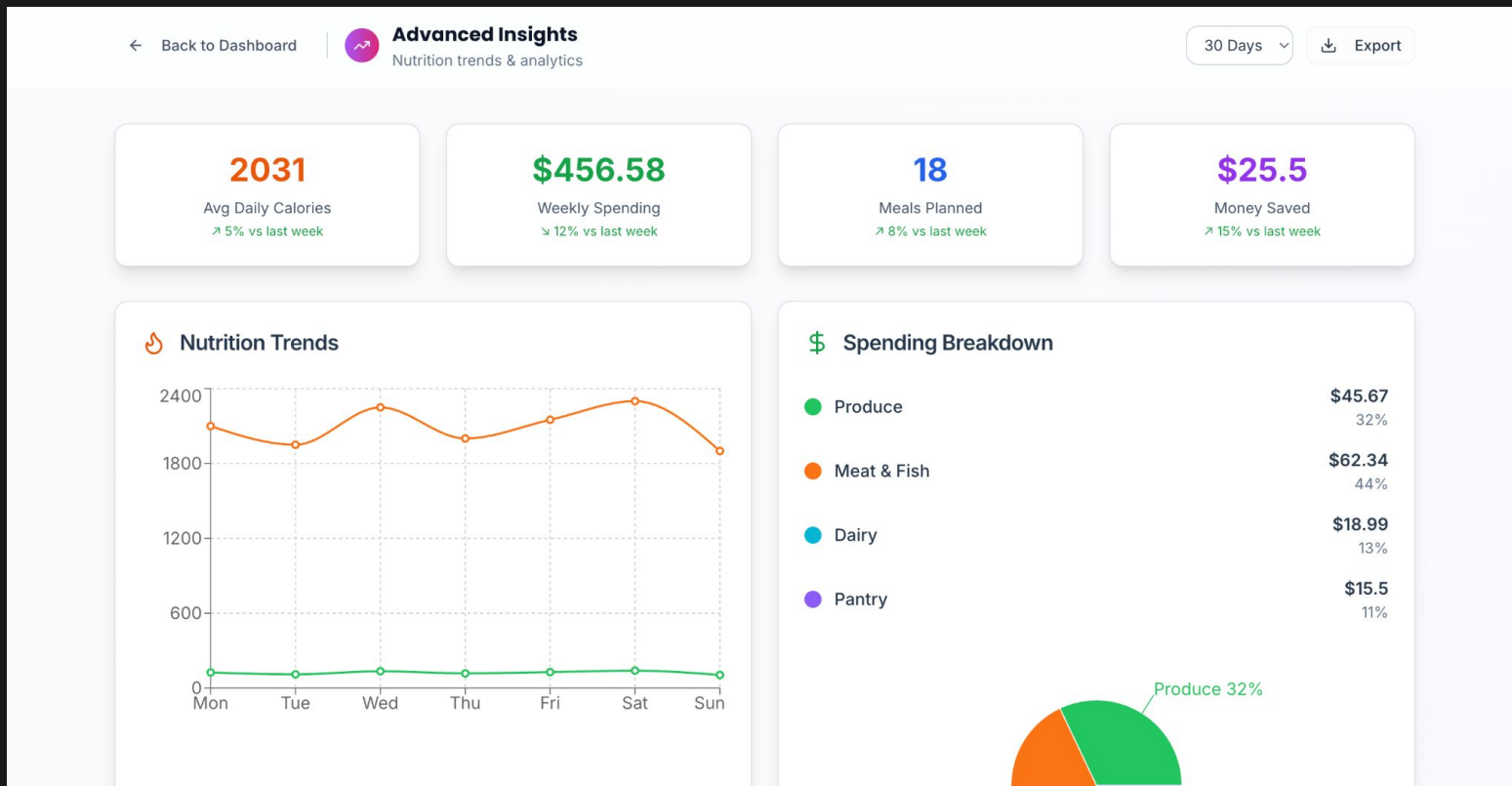
Current Progress (initial UI mocks)



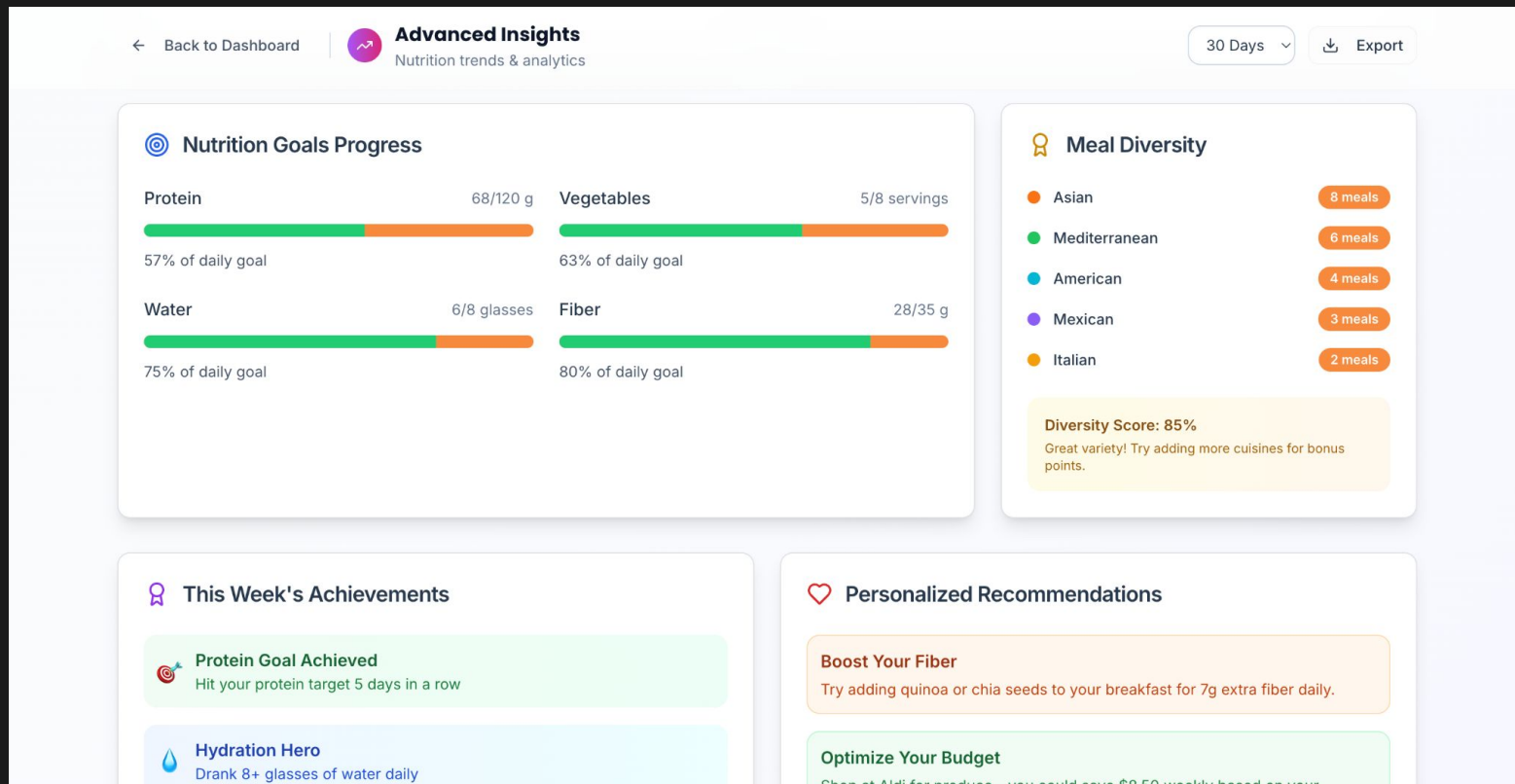
Current Progress (initial UI mocks)



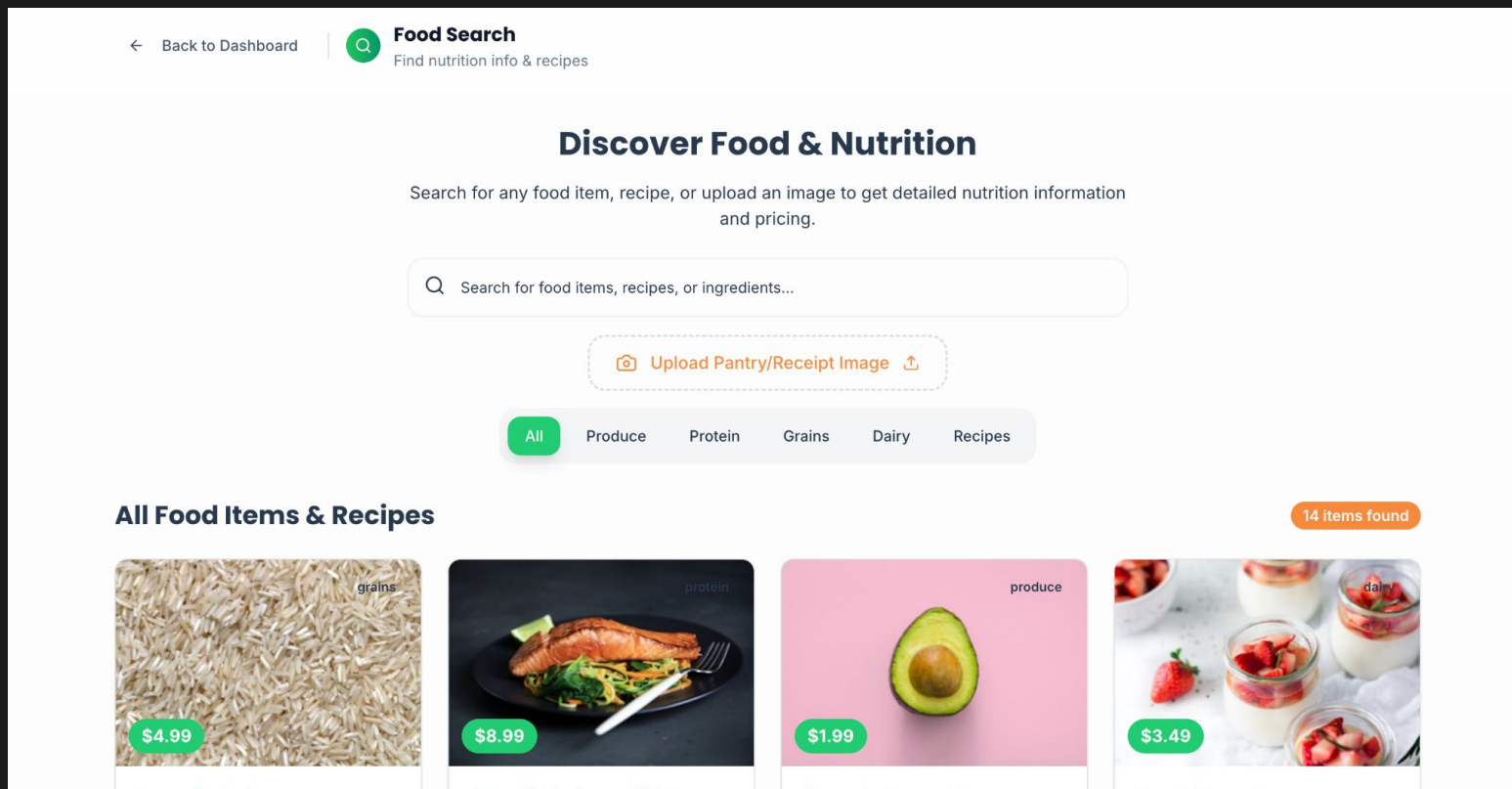
Current Progress (initial UI mocks)



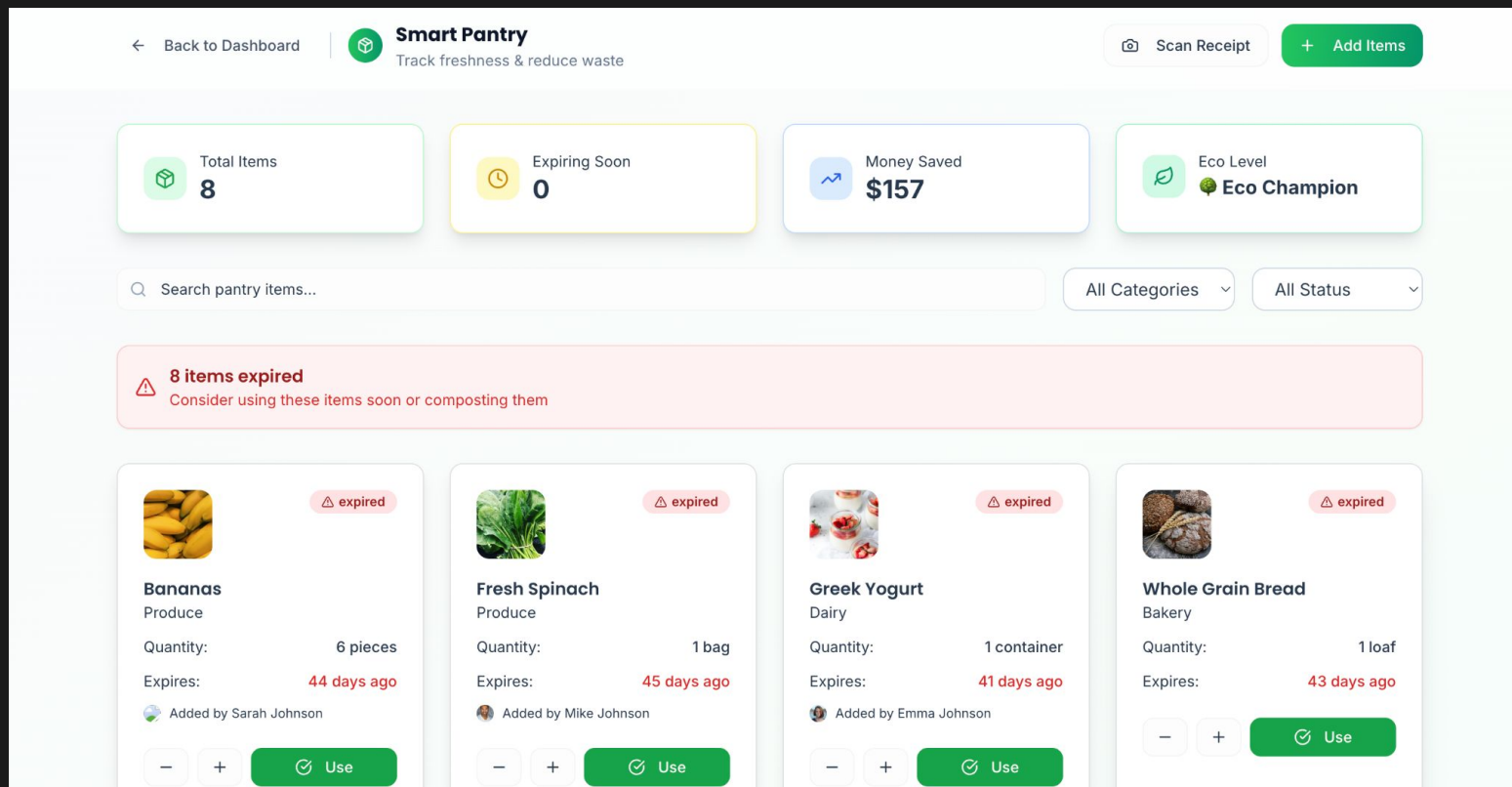
Current Progress (initial UI mocks)




Current Progress (initial UI mocks)






Current Progress (initial UI mocks)







Current Progress (initial UI mocks)

[← Back to Dashboard](#) |  **Family Collaboration**
Shared meal planning & shopping

 **The Johnson Family** [+ Invite Member](#)

 **Sarah Johnson** 
sarah.johnson@email.com [Active](#)

 **Mike Johnson**
mike.johnson@email.com [Active](#) 


 **Emma Johnson**
emma.johnson@email.com [Active](#) 

This Week


18
Shared Meals


3
Active Lists

\$127
Shared Savings

 **Shared Meal Plans**

Mediterranean Week [active](#)

 Sarah Johnson
2 hours ago
3 members 14 meals [View Plan](#)

 **Shared Shopping Lists**

Weekend Grocery Run [Complete](#)

Items completed 12/12

3 members contributing [View List](#)

Expected Accomplishments (through end of Fall)

- Early Backend Prototype/API
 - CRUD for meal, cart, and pantry entities
- Pantry/Cart Management Algorithm Progress
 - Calculate groceries needed for meal plan factoring in current stock
- External Integration Progress
 - API discovery for at least one popular grocery chain (Kroger, Costco, Aldi, etc.)
 - Backup interaction design
- Basic OCR receipt ingestion
- Most UI pages created (may be very bare-bones)



Expected Demo at Expo

End-to-end Meal/Grocery Planning Workflow

Meal plan → Pantry reconciliation → Cart generation → Price compare/Recommendations

Visual dashboards for nutrition insights and shopping optimization

Relevant AI/ML Touchpoints

Recommendation engine, nutrition analysis, etc.



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Thank you